The Library of Congress'

EARLY STATE RECORDS PROJECT

converted from the original microfilm held by the
Vincent C. Immel Law Library, Saint Louis University

through the generous support of a grant from the

Council on Library and Information Resources

Report

reformatted from the original and including,

Report of the Agricultural & Mechanical College … <1877/1878>;

Report of the Board of Trustees of the State Agricultural & Mechanical College … 1878/1879-<1881/1882>

LLMC #: 00269t

REPORT

OF THE

BOARD OF TRUSTEES

OF THE

State Agricultural & Mechanical College,

FOR THE YEARS 1878-9 & 1879-80.

MONTGOMERY, ALABAMA:
BARRETT & BROWN, STEAM PRINTERS AND BOOK BINDERS.
1880.

BOARD OF TRUSTEES.

His Excellency **RUFUS W. COBB,**

Governor of Alabama, ex-officio President.

Hon. **LEROY F. BOX,**

Superintendent of Education, ex-officio.

FIRST DISTRICT:

Hon. **C. C. LANGDON,** Mobile.

SECOND DISTRICT:

J. W. HARDIE, Esq., Montgomery.

THIRD DISTRICT:

Hon. **W. H. BARNES,** Opelika.

W. C. DOWDELL, Esq., Auburn.

FOURTH DISTRICT:

Hon. **JONA. HARALSON,** Selma.

FIFTH DISTRICT:

Hon. **R. F. LIGON,** Tuskegee.

SIXTH DISTRICT:

Gen. **L. W. LAWLER,** Talladega.

SEVENTH DISTRICT:

Hon. **M. L. STANSEL,** Carrollton.

EIGHTH DISTRICT:

Hon. **J. N. MALONE,** Athens.

E. T. GLENN, Treasurer.

F. M. REESE, Secretary.

FACULTY AND OFFICERS.

Rev. I. T. TICHENOR, D. D.,
President and Professor of Moral Philosophy.

Col. R. A. HARDAWAY, A. M., C. E.,
Commandant and Professor of Engineering.

J. T. DUNKLIN, A. M.,
Professor of Ancient Languages.

W. C. STUBBS, A. M.,
Professor of General and Agricultural Chemistry.

OTIS D. SMITH, A. M.,
Professor of Mathematics.

W. H. CHAMBERS, A. M.,
Professor of Agriculture.

P. H. MELL, Jr., A. M., M. E.,
Professor of Natural History.

Rev. G. W. MAXSON, A. M., M. E.,
Professor of English Literature.

E. R. RIVERS, C. E.,
Instructor in Collegiate Department.

C. C. THACH, B. E.,
Principal of Preparatory Department.

O. C. McGEHEE, B. S.,
Instructor in Preparatory Department.

J. H. DRAKE, M. D.,
Surgeon.

WILLIAM C. STUBBS, A. M.,
Secretary of Faculty.

E. R. RIVERS, C. E.,
Librarian.

The diligence and success of the Faculty and Officers of the College, and the general good conduct of the students, has been such as to elicit the warm commendation of the Board of Trustees.

The number of students in attendance, at the College during the two years covered by this report has been as follows:

FOR THE SCHOLASTIC YEAR 1878–9.

Post Graduates	2
First Class	13
Second Class	31
Third Class	51
Fourth Class	78
Preparatory Department	104
Total	279

FOR THE SCHOLASTIC YEAR 1879–80.

First Class	20
Second Class	18
Third Class	57
Fourth Class	50
Special Class	5
Preparatory Department	79
Total.	229
Number of graduates for the two years	29
Average number of students	254

The present session has opened well, and everything betokens a continuance of the success which has characterized the history of the Institution.

In the early part of the present year, the Commissioner of Education requested the President of the College to forward to him for the Committee of Education and Labor of Congress a statement of the number of young men, who had received instruction at the College, but who were no longer connected with it, together with the vocations in which they were engaged.

The reply to this request exhibits the fact, that from the organization of the College to June, 1878, nearly 750 young men had received instruction at the College. Of this number 516 were no longer with it. Of those who had left, there were engaged in—

Agriculture	222
As civil engineers, mining engineers, railroad employees and mechanical pursuits of various kinds	40
In professions, lawyers, physicians, ministers of the Gospel, editors and teachers	30
Commercial pursuits	90
Employment not known	94
Total	516

It will thus be seen that more than half our students, when they leave the College, go back to their homes to engage in the cultivation of the soil. Including those who teach, more than nine-tenths of them, pursue industrial as designated, from professional calling. Thus is the College fulfilling the purpose of its organization "to educate the industrial classes."

These facts, we trust, will commend it even more fully to the confidence of the people of Alabama, and the careful consideration of its interests and its needs to the Legislature of the State.

COURSES OF INSTRUCTION.

There are four regular Degree Courses in this Institution, designated as follows:

I.

COURSE IN AGRICULTURE.

Degree, Bachelor of Scientific Agriculture; B. S. A.

II.

COURSE IN ENGINEERING,

Degree, Bachelor of Engineering; B. E.

III.

COURSE IN LITERATURE.

Degree, Bachelor of Arts; A. B.

IV.

COURSE IN SCIENCE.

Degree, Bachelor of Science; B. S.

Each of these Courses requires four years for its accomplishment, and to entitle the student to the Degree he must stand an approved Examination in the studies prescribed for the Course. For the first two years the studies in all of the Degree Courses (which are the same as those pursued in the Freshman and Sophomore Classes of other Colleges) are identical, except that students in the Departments of Agriculture, Engineering and Science, may, if they prefer, substitute the Modern Languages (French and German) for Latin and Greek. Having completed the studies prescribed for these two years, the student may elect either of the Regular Degree Courses.

I. Course in Agriculture.

The design of this Course is to furnish the student with a plan of study especially adapted to the wants of those who propose to devote themselves to Agricultural pursuits; not so much by training in the practical processes of the Farm, as by affording instruction in the principles of correct husbandry, and in those sciences which relate particularly to the cultivation of the soil.

The course requires four years for its completion, the first two years, however, being devoted to studies which are common to the Literary Course, except that students who propose to take the Course in Agriculture may, if they prefer, substitute the Modern for the Ancient Languages.

Having gone through this course of study, which is thought to be essential to a liberal education for any of the practical pursuits of life, the student is prepared to enter upon the technical studies in the course, which occupy the remaining two years. These technical studies embrace the following subjects:

1. *Mechanics and Physics*, in which the class makes daily recitations during the Fall term of the first year.

2. *Botany*, two recitations weekly during the Spring term of the first year.

3. *Descriptive Astronomy and Meteorology*, three recitations weekly during the Fall term of the second year.

4. *Geology and Mineralogy*, three recitations weekly during the Spring term of the second year.

5. *Zoology and Entomology*, two recitations weekly throughout the second year.

6. *Agricultvral Chemistry*, with practical instruction in quantitative and qualitative analysis of soils and fertilizers, to which two hours are devoted daily throughout the first year.

7. *Vegetable Physiology*, embracing the structure and habits of plants, and their relations to the soil and the atmosphere, occupying two recitations weekly throughout the first year.

8. *Practical Husbandry*, embracing the subjects of soils, their cultivation, fertilization, drainage and irrigation; Farm Crops; Farm Implements and Machinery; Farm Animals;

Fruit Culture; Market Gardening; Horticulture and Landscape Gardening; in which instruction is given daily by text books and lectures during the entire course of two years.

For the purpose of illustrating and exemplying the principles taught in the text books and lectures, the College is furnished with the following appliances:

1. An extensive Mineralogical and Geological Cabinet, and a Museum of Natural History.

2. A commodious Laboratory, supplied with troughs, furnaces, balances and the necessary chemicals and apparatus for making analyses.

3. An Experimental Farm of Twenty Acres, devoted to soil tests of fertilizers and experiments in the cultivation of field crops, grasses, fruits and flowers, under the supervision of the Professor of Agriculture.

In addition to the technical studies embraced in this Course, the Class in Agriculture is required to make three recitations weekly in Political Economy, during the Spring term of the second year; and also to attend lectures weekly upon Constitutional Law and the Law of Contracts, Conveyances, and Landlord and Tenant, in which it is designed to furnish such instruction as will be of service to the practical agriculturist.

II. COURSE IN ENGINEERING.

This Course extends the Scientific Course in applied mathematics, embraces full instruction in regard to the construction of common roads, pikes, railroads, bridges, canals, improvements of rivers, harbors, &c.

In aid of the practical studies of the College, and as a means of familiarizing students with the actual details of work, the Second Class in Engineering will devote two weeks in December, and the First Class four weeks in May, to field work, and to visits of inspection to machine shops, mills, mines. furnaces, and engineering constructions within convenient reach.

The Senior Class of the Engineering Course, is organized as an Engineering Corps, and goes through all the necessary operations for the construction of a railroad from Auburn to some selected terminus.

Preliminary study of maps.

Reconnoissance.

Running Preliminary lines.

Maps and Memoirs of same.

Final location of road; Grades and Curves.

Final Maps, showing Longitudinal and Cross Sections, Excavations, &c.

The Field Work and Office Work, including Drafting and Calculation, are performed under the direction of the Professor. Each step is accompanied by text book study and lectures. Examinations are made of Engineering works in the vicinity, and written reports upon them (with drafts) are required. Both theory and practice are thoroughly taught.

The work in this Course begins with the first Collegiate term.

The Course in Drawing extends through four years. During the first year the students practice linear and freehand drawing. In the second year the elementary principles of instrument drawing, embracing a course of orthographic and isometrical projections, shades and shadows, structural drawing and topographical delineation, are taught. This course is obligatory on the students of all the Courses, except the Course in Literature.

During the third and fourth years, instruction in drawing is obligatory only on the students in Civil Engineering. In the former year the system of instruction embraces orthographic projections, isometic drawing, shades and shadows, tinting in India ink and colors, the practice of drawing in sketches of tools, the finished work of machines, bridges and other structures. In the last, or fourth year of the Course in Engineering, the students are taught perspective. They then cease to draw for mere practice, and use their graphical skill in machine construction, in making drawings of works visited in excursions to mines, furnaces, water, gas and railway structures. Plans, profiles and sections of railroad surveys complete the course.

Drawing Instruments.—The instruments used at the College are the Swiss, which are preferred for their general excellence and moderate cost. The instruments, with the materials for geometrical and topographical drawing, cost from ten to twenty-five dollars. The student is advised to defer his purchases of drawing instruments and material until he comes to the College, when he will have the advantage of procuring them under the direction of the Professor of Drawing.

The Drawing Room is fitted up with all necessary arrangements. A full set of geometrical models is provided. A large number of photographs, lithographs and manuscript drawings—English, German and French—have been imported. They illustrate the following subjects: General Descriptive Geometry, Linear Perspective, Shades, Shadows, and Reflections, Masonry and Stone Cutting, Girders and Trusses of Wood and Iron; Furnaces, Boilers, Railroad Shops, Depots, Offices; Machines, and their details, shown in the conventional colors used in France and Germany.

A selection of portfolios in landscape, figure and classic subjects, and casts from the gallery of the Louvre in Paris, is calculated to meet the wants of students desiring to pursue a full course in freehand drawing.

III. COURSE IN LITERATURE.

This is the usual A. B. Course of American Colleges, and the plan of study is substantially the same as that required for this Degree in the best literary institutions of the country. It embraces a thorough course of the Latin and Greek Languages, running through the entire four years; the study of English in its linguistic elements, as well as its Literature, including Rhetoric and Logic; History, Ancient and Modern; Philosophy, Mental, Moral and Political; Mathematics, Pure and Applied; and Natural Sciences, including Chemistry, Botany, Astronomy, Geology and Physics.

Monthly exercises in Declamation and Composition are required of all students, during the first and second years, and the higher classes in the Literary Course deliver three original orations during the year.

IV. COURSE IN SCIENCE.

This Course is intended for those who wish to pursue the study of the Physical Sciences in a more extended course than that prescribed in the Literary Course, with the privilege, at the same time, of substituting the Modern for the Ancient Languages.

The subjects embraced are Mechanics and Physics; Botany; Chemistry, including work in the Laboratory in Qualitative and Quantitative Analysis; Descriptive and Practical, Astronomy; Mineralogy; Geology and Meteorology.

The purpose is to afford to the student every facility for thorough instruction, in the way of experiment and illustration, in connection with the text books and daily lectures by the Professors of Chemistry and Natural History.

The Chemical Laboratory is admirably fitted up for work in Analysis. It consists of a Lecture Room furnished with Counters, Pneumatic Trough, Gasometer and large glass case; a Work Room with twenty-five work tables; a Furnace Room, and a Balance Room. All are supplied with gas and water. Every student pursuing Analytical Chemistry is provided with a separate work table, the necessary chemicals and apparatus, a jet of gas with Bunson's burners, and enameled water sinks. In the Balance Room are balances made by Oertling of London and Becker of New York.

PHILOSOPHICAL APPARATUS.

The Philosophical Department of the College has been rendered more efficient, during the past year, by the addition of five hundred dollars' worth of the most improved modern apparatus. Special appropriations will be made for increasing the facilities of this department as the funds of the College will permit.

MUSEUM AND MINERALOGICAL CABINET.

The Museum is comprehensive in its scope, embracing many rare and valuable specimens. The private collection of the Professor of Natural History (consisting of 4,265 specimens) added to that of the College (consisting of 6,358 specimens) renders the study of Geology, Mineralogy and Zoology, both instructive and interesting.

We earnestly request the citizens of the State to forward to the Professor of Mineralogy and Geology any specimens which may be useful in the geological study of Alabama.

By an act of the Legislature appointing a State Geologist, it is made his duty to furnish this institution a full set of all the minerals of the State, thus giving a prospective increase to our already valuable cabinet, and by which the Geology of Alabama may be fully illustrated.

SPECIAL COURSES.

In addition to the four regular Degree Courses, there are four Special Courses provided for those who do not wish to complete the full plan of study required for graduation in the Degree Courses. Upon completing any one of the Special Courses, and having passed a satisfactory examination in the studies thereof, the Student is entitled to a *Certificate of Proficiency.*

I. The Course in Commerce.

This Course is designed to meet the wants of those who have not the time and means requisite for a full Collegiate Course, but who wish, while fitting themselves for the practical duties of life, to acquire a good general education, such as would not be afforded by a Business College. It is intended to embrace two years, combining the work of the first section of the Preparatory Department with the regular work of the Fourth Class, substituting commercial arithmetic, book keeping, and training in business forms and correspondence, for an equivalent amount of work in ancient or modern languages and drawing. It is based on a thorough training in English grammar and plain mathematics.

If fully prepared to enter the Fourth Class, this course can be completed by the student in one year. Upon a satisfactory completion of the course, a certificate of proficiency will be given.

II. COURSE IN TELEGRAPHY.

This course is intended to prepare students for practical office work. The scope of study is the same as that prescribed by the Commercial Course, except in the second year Telegraphy is substituted for Commercial Arithmetic and Book-keeping.

The student is made familiar with the principles of the different kinds of Batteries—adjustment and care of the Instruments—how to build and operate a telegraph line, and keep it in repair—and all other essential items that make a first class operator.

Upon a satisfactory completion of the course, a certificate of proficiency will be given.

III. COURSE IN SURVEYING.

This Course is intended to fit the student for the proper discharge of the duties of deputy surveyor, according to the Manual of Instructions of the Commissioners of the General Land Office, for surveying the public lands of the United States.

An approved examination must be passed in Mathematics, Surveying, Drawing, and English of the Fourth and Third Classes. Special work in map drawing, and the use of the solar compass and theodolite, is required. A certificate of proficiency in surveying will be granted on completion of this course.

IV. COURSE IN ARCHITECTURE.

Students desiring a partial course in Engineering may omit a part of the higher Mathematics, Chemistry, and study of languages. The course would consist of Architectural Drawing, equilibrium and stability of structures, arches, trusses, roofs, building material, mortars, &c.

PREPARATORY DEPARTMENT.

In view of the imperfect preparation of many applicants for admission into the College, and of the want of educational facilities in many localities for suitable preparation for college, or even for obtaining a good academic education, there has been established in connection with the Agricultural and Mechanical College, a PREPARATORY DEPARTMENT.

This Department is intended to be auxiliary to the higher departments of the College, and especially to prepare students to enter the fourth class of any course of the College. It is in charge of competent instructors. It affords unusual facilities for thorough preparation for the College courses, or for a good academic education.

DEPARTMENT OF MILITARY, SCIENCE AND TACTICS.

By the act of Congress for the endowment of Agricultural and Mechanical Colleges, in prescribing the required studies, the words, "*including* military tactics," are used. The act is designed to be faithfully carried out, by imparting to each student, not physically incapacitated to bear arms, practical instruction in the school of the soldier, of the company, and of the battalion. The duties of guards, outpost and picket service, are practically taught. The College is provided, by the State, with breach-loading cadet rifles, swords, and accoutrements.

The following uniform has been prescribed for dress, viz: Frock of Cadet gray, three rows of College buttons; gray pants and black hat, trimmings black. A very neat and serviceable dress suit can be obtained here, not to exceed $25, and a fatigue suit, not to exceed $18—sufficient, with proper care, for one year's service. This is less expensive than the usual clothing. All students are required to wear this uniform at all times during the term. In attendance upon drills and guard, students lose no time from academic studies.

The officers and non-commissioned officers are distinguished by appropriate insignia of rank. These appointments are conferred by the Commandant of Cadets, as honorary distinctions, and are continuous for the collegiate year, unless forfeited by misconduct.

LOCATION AND BUILDING.

The College is situated in the town of Auburn, sixty miles from Montgomery, directly on the line of the Western Railroad.

The region is high and healthful, 821 feet above tide-water, being more elevated than Montgomery by 659 feet, or than Talladega by 200 feet.

The building is large and commodious, and is well furnished with rooms for college use.

SOCIETIES.

There are two Literary Societies—the Wirt and the Websterian—connected with the College. Each has a commodious hall handsomely fitted up, a library of standard and miscellaneous works, and a reading room. Their weekly exercises add to the facilities afforded by the College for practice in composition, elocution, and discussion.

SOCIETY OF ALUMNI.

The Annual Alumni Oration, by a member of the Society, is delivered in the Chapel, Monday evening of Commencement week.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

This Association comprises the students who are members of churches. Its object is to promote the religious character and usefulness of those connected with it. Weekly meetings are held, and public addresses occasionally delivered.

E. J. Harrison, President.
James Lapsley, Corresponding Secretary.

FINANCES.

Receipts and expenditures for the Collegiate year 1878–9, and 1379–80, ending June 15th, 1880.

RECEIPTS.

1878-9—

To State Treasurer's account	$19,350 00
Fees account	2,965 00
Farm	305 81
Balance account	1,007 14
Total	$23,627 95

DISBURSEMENTS.

By amount paid to	balance	$ 689 41
	Expense account	1,120 06
	Repairs and improvements	1,223 72
	Fixtures “ “	459 17
	Records and stationery	180 95
	Freight	92 38
	Apparatus	618 57
	Music	391 42
	Printing	343 27
	Trustees	256 93
	Salaries	15,497 90
	Farm	664 70
	Insurance	412 51
	Chemicals	134 25
	Interest and exchange	196 51
	Surgeon	965 00
	Advertising	381 20
Total		$23,627 95

RECEIPTS.

1879-80—

To State Treasurer's account	$20,280 00
Fees	3,167 50
Farm	293 93
Expense	68 00
Balance	3,499 53
Total	$27,308 96

DISBURSEMENTS.

By balance forward	$ 1,007 14
Amount expense account	1,007 89
Farm	736 00
Repairs and improvements	1,953 90
Fixtures	239 55
Printing	380 47
Stationery	92 50
Apparatus	619 15
Freight	215 60
Military	367 61
Interest and exchange	291 72
Trustees	125 85
Salaries	18,425 00
Insurance	412 51
Advertising	441 90
Chemicals	172 16
Surgeon	820 00
Total	$27,308 96

Respectfully submitted,

E. T. GLENN, *Treas'r.*

BUILDINGS.

The building donated to the State by the Trustees of the East Alabama College, for the use and benefit of the Agricultural and Mechanical College, is used exclusively for purposes of instruction.

Thousands of dollars have been needed to put it in repair, to finish the basement story, and to make such changes as were needed to adapt it to the wants of the institution. It needs now an additional expenditure of several thousand dollars to make it complete in this respect. We have no houses for members of the Faculty, no halls for boarding and lodging students, and are dependent upon the kindness of others for a hall in which to hold our commencement exercises. All the equipments of the College, furniture, apparatus, chemical and philosophical cabinets of minerals, museums, &c., &c.,

have been provided out of the meagre funds of the institution.

To pay current expenses, provide all appliances of instruction, and at the same time furnish free tuition to all students, has required strict economy in the management of our finances.

AGRICULTURAL DEPARTMENT.

By the very law of its being, "the leading object" of this College must be "to teach those branches which relate to Agriculture and the Mechanic Arts." The act of Congress which gave it birth, is entitled "An act donating lands to the several States and Territories, which may provide Colleges for the benefit of Agriculture and the Mechanic Arts;" and in the body of the act are recited the words already quoted. Whatever else therefore may be embraced in our course of instruction, these must not only be included, but they must constitute its prominent and distinctive feature.

An institution of learning which undertakes to afford technical education, requires a more liberal outfit in the appliances of instruction, than those Colleges which embrace simply the old curriculum of a "classical and scientific education." To do our work properly we must have expensive labratories, museums of natural history, philosophical apparatus and experimental forms. No amount of study in the text books or lectures in the recitation room, unaccompanied by experiment and demonstration, can ever furnish the student an education worthy of the name, in those branches of learning which the A. & M. College is expected to afford.

"The only method," says Liebig, "by which you possibly advance and develop agriculture, is by experiment, and therefore the Agricultural Department of the College without an experimental station is simply nonsense." The farm is an indispensable adjunct of the agricultural school, not for the purpose of teaching the student to perform manual labor, but to impress upon his mind the truths which he is required to learn from his text books, and the lectures of his professor. It is an essential part of the apparatus of the Agricultural

College, and is just and necessary to its completeness as the labratory of the chemist or the museum of the naturalist. It pertains to the school of agriculture the same relation that the clinic does to the school of medicine, and neither can successfully do its work without this appendage.

Recognizing this truth, nearly every Agricultural College in the United States has in connection with it, a farm which is considered an indispensable part of its machinery; and of the 350 agricultural schools in operation in Europe, every one except the University of Edinburg has connected with it either an experimental or a model farm.

The following table exhibits the size and value of the farms connected with the A. & M. Colleges of the several States:

Arkansas,	160	acres, valued at	$ 12,000
California,	200	" " "	200,000
Deleware,	80	" " "	16,000
Illinois,	570	" " "	56,000
Indiana,	159	" " "	47,700
Iowa,	850	" " "	51,000
Kansas,	225	" " "	25,000
Kentucky,	433	" " "	130,000
Louisiana,	600	" " "	40,000
Maine,	370	" " "	10,000
Maryland,	285	" " "	14,250
Massachusetts,	383	" " "	37,000
Michigan,	676	" " "	47,320
Minnesota,	120	" " "	12,000
Missouri,	640	" " "	60,000
Nebraska,	320	" " "	18,422
New Hampshire,	365	" " "	21,000
New Jersey,	100	" " "	45,000
New York,	150	" " "	22,000
Ohio,	320	" " "	200,000
Pennsylvania,	600	" " "	75,000
South Carolina,	116	" " "	10,000
Tennessee,	260	" " "	24,000
Virginia,	250	" " "	28,000
Wisconsin,	196	" " "	40,000

The farm in connection with the A. & M. College of Alabama is wholly inadequate to its wants. During the past year the Professor of Agriculture has been endeavoring to conduct a number of valuable and interesting experiments, intended, in part, to illustrate the truths which are taught in the recitation room, by lecture and text books, but chiefly to test the value of various fertilizers and processes in the preparation of soils and the cultivation of crops. These experiments have been restricted in their number and scope, and in many instances have been unsatisfactory in their results, for the want of proper facilities in conducting them. With the help of proper appliances, the labors of the recitation room could be so supplemented as greatly to augment their value, and, indeed, without them, it is almost impossible to afford satisfactory instruction to the student. Nor is the value of a well organized experimental farm, in connection with the College, confined to the students who attend its halls. The farmers of the State will be the chief beneficiaries. No branch of industry is so completely built up on experiment as agriculture. A series of experiments faithfully, patiently, and persistently conducted, will do more for the advancement of practical agriculture than any other agency which can be employed, but such a series of experiments can only be conducted on an establishment devoted to that purpose. The average farmer has neither the time, the means, nor the appliances to conduct experiments. His business is to make money on his farm, and he cannot afford to employ his time, his labor, his land and his fertilizers in making experiments, which may or may not prove profitable, however valuable it may be for educational purposes. The value of an experiment is not its outcome in money, but the truth which it evolves, and an experiment which may be a failure so far as profit is concerned, may yet be of as great worth to the practical farmer, as if it had been pecuniarily successful; just as the buoy which marks the scene of a ship-wreck is worth as much to the mariner as the chart which points out the safe channel.

A well equipped, faithfully conducted experimental station in Alabama, where scientific theory may be carefully tested, where the suggestions of study in improved processes of culture, and fertilization and stock feeding, may be subjected to the crucible of experience, will do more for the advancement and development of practical agriculture in our State, than any other means at our command. Leibig at Munich, Boussingoult at Bechelbroun, Lawes at Rothamstead, Wolff at Moechern, and Voelker at London, have done more for the advanced farming in those countries, than all the presses, agricultural societies, and all other agencies combined.

Professor Johnson pittily remarks that "the object of these stations is to make a regular business of discovery for the use of farming;" and so well have they done their work, that no intelligent observer of the present condition of agriculture in Europe will hesitate to ascribe its improvement mainly to their influence.

The first agricultural experimental station in the world was established at Moechern, near the city of Leipzig, in 1852. It was the result of a voluntary organization among the farmers of Germany, who, appreciating the value of experiments, and recognizing the fact that they had neither the time nor facilities for doing the work satisfactorily on their farms, determined to organize an institution for that special purpose, and maintain it by their joint contributions. So marked were the advantages resulting from it, that since that time the government has established fifty experimental stations in the German Empire, which are maintained by appropriations from the public treasury. Other countries, impressed with the worth of these eatablishments in the development and improvement of practical agriculture, have followed the example of Germany, and there are now over one hundred in successful operation in Europe.

Victor Emanuel, in his efforts to reconstruct Italy, recognizing the truth that a prosperous agriculture must be the foundation of any healthy material prosperity, sent a messenger to Germany to study its system of agricultural improvements, and the result was an establishment of an agricultural station in 1871, which has been followed by twelve others. One of these is specially devoted to investigations in grape culture, another to the cultivation of the olive, another to dairying, another to feeding experiments, &c., &c. The experience of Europe has established another important point; and that is to render these experimental stations most efficient, they must be established in connection with some well organized institutions of learning, where all the appliances for scientific investigation, in the way of labratories and apparatus, and the assistance of persons skilled in the sciences related to agriculture, can be procured; and hence the latest and best endowed establishments of this sort are now being located in immediate connection with scientific instructions. Why should not Alabama avail herself of similar facilities for the improvement of her most important industry? No commonwealth in the world possesses superior agricultural resources. In none is the population more largely engaged in agriculture. In none is the wealth and prosperity of the State more dependent upon the development and improvement of agriculture. And yet what has the State done in this direction? What has it contributed to the equipment of her agricultural and mechanical colleges? Other States, as we have already shown, in their list of farms, which have by State liberality been established in connection with their A. &. M. Colleges have done much to increase their efficiency. Shall Alabama do nothing? Does not good faith require that in accepting the donation of the general government, she shall provide the means for making that donation effective? Will not her State pride prompt her to put her institutions abreast with those of other States? Furnish us the facilities, and we can afford to our young men educational advantages equal to any which they can find elsewhere. If we had the means we would establish in connection with the A. & M. College a complete experimental farm and other appliances of instruction which would not only make it in all respects a first-class institution of learning, but the source of incalculable benefit to the agriculture of the State.

All this will probably be admitted; but it is objected that the financial condition of the State will not enable it to bestow its liberality in such enterprises. If we ask an appropriation from the treasury of the State, we might reply to this objection in the words of Dr. LeRoy Broun, in his address at our last commencement: "The advocates of a false economy should bear in mind, that it is not education that costs the State increased taxation so much as ignorance or want of knowledge, not knowledge—and that supplementing the munificent donation of the general government on the part of the State, would constitute an investment for the present and future generations that would yield rich returns, in adding to its power and wealth, by producing earnest, active, creative men." If Alabamians could be awakened to an appreciation of the magnificent possibilities of the State; if they realized the untold millions of wealth that lie buried in her soil, and her mountain ranges, awaiting the touch of skill and enterprise; if she understood that she needs nothing but trained labor directed by enlightened minds to make her the richest and most prosperous in the sisterhood of States—they would not regard it a wise economy or a true statesmanship to withhold the means for equipping and enlarging her institutions of learning, in which her sons are to be fitted for the great work before them.

But we ask no appropriation from the Treasury. It is in the power of the State to furnish all the means we want without taking a dollar from her revenues, or adding a mill to the taxation of her people; nay more, the very means which we ask the State to employ, in affording us the desired assistance, will, in itself, prove a public benefaction.

A trifling tax upon the commercial fertilizers sold in the State will raise a sum sufficient for our wants, and at the same time enable us to shield the farmers of the State from the impositions which are now practiced upon them in this trade; and while it will do this, it will not add a cent to the cost of the fertilizers themselves. We pay exactly the same price for the fertilizers which are paid by the farmers of Georgia, where every ton is taxed at the rate of 50 cents. A similar tax in Alabama would add nothing to the cost of the fertilizer.

Some system of inspection is absolutely demanded for the protection of the farmer. He is now completely at the mercy of the unscrupulous manufacturer, and he is now doubly victimized by the fact, that the worthless articles which cannot find a market in other States, where protective laws are in operation, are brought here where no means are provided for their protection. The only means which can be devised for this purpose is a system of rigid analysis, and no where else in the State can this system be so well established as in connection with the State College of Agriculture and the Mechanic Arts.

We ask the State, then, as a measure of precaution for the protection of the farmer, to establish a system for inspection of commercial fertilizers; to provide for their analysis by the authorities of the A. and M. College, and to give to that institution, as the means of enlarging its usefulness, the net revenues produced by a small tax upon fertilizers. Who will be damaged by this system? Who will be benefitted? First, the farmer, who will have a guarantee of the genuineness of the fertilizer he uses; second, the State A. and M. College, which will thereby be enabled to put itself upon a footing with the very best institutions of the Union, making it at once the pride and the blessing of the State; and, third, the State itself, in the development of its material resources and the cultivation of that laudable pride in her own institutions, which is always characteristic of a great and prosperous people.

Whatever else Alabama may leave undone, she cannot afford to permit her sons to grow up in ignorance—that would doom her to helpless poverty, and hopeless inferiority to her sister States. And whatever branches of learning may be neglected, she cannot afford to neglect the enlightenment of her sons as to those industries, which are the basis of all her material prosperity, and from which her revenues must come.

At the last session of the Legislature an act was passed which canceled a debt of thirty or forty thousand dollars, due to the State by the University. It was wise on the part of the Legislature to thus relieve an institution which has done so noble a work for the State and of whose past history and present prosperity every citizen of Alabama may justly be proud. But while we were gratified at this action of the General Assembly, we cannot but feel that the Agricultural and Mechanical College, which is educating as many of the sons of Alabama as the University, out of a smaller income, is entitled to some consideration at the hands of the State, which stands in the same relation to both institutions.

If it be objected that the larger mass of the young men of the State can never receive an education at these institutions of higher learning, and that, therefore, they are entitled to little consideration from the representatives of the people, we reply that no class of men are so much interested in the support of these institutions as this unlettered class. They, of all others, are the most dependent for the preservation of their rights, for the protection of their property, and for their advancement socially, materially and intellectually upon the educated classes. How much would this class be injured by the removal from our State of all its educated men? How would such removal obstruct commerce, hinder the administration of justice, diminish the value of property and impair, if not destroy, our very civilization?

If, unfortunately, any son of Alabama should be necessitated to grow up without education, it is his true interest and should be his earnest desire, that no other should share his misfortunes.

Having failed to light his torch at the altar of truth, he could then walk in the light emitted by others, and the more numerous they were the more perfectly would be dispelled the darkness which otherwise would envelope him.

We most respectfully ask that a committee of your honorable body shall, at an early day, visit the College and report to you its condition, and such measures as will promote its usefulness to the people of the State.

By order of the Board of Trustees.

R. W. Cobb,
Gov. and Ex-officio Pres. Board.

F. M. Reese, *Secretary.*